Honors Algebra 2 **Name:** _____

Operations with Polynomials **Date:** _____ **Period:** _____

Adding & Subtracting Polynomials

A.) $(-4k^4 + 14 + 3k^2) + (-3k^4 - 14k^2 - 8)$

B.) $(-x^4 + 13x^5 + 6x^3) + (6x^3 + 7x^4 - 2x^2)$

C.) $(8n - 3n^4 + 10n^2) - (3n^2 + 11n^4 - 7)$

D.) $(12a^5 - 6a - 10a^3) - (-2a^5 - 14a^4)$

Multiplying Polynomials

E.) $2x(3x^2 - 7x)$

F.) $(4n - 3)(5n + 2)$

G.) $(3y + 4)^2$

H.) $(3t - 2)(4t^2 - 9t + 3)$

I.) $(3m^2 + 4m - 2)(2m - 5)$

J.) $(7k - 3)(2k^2 - 2k + 7)$

Evaluating Polynomials

K.) $f(-3) = -2x^2 + 5x + 11$

L.) $f(m + 3) = x^2 - 4x + 9$

M.) $f(x + y) = x^2 - 2x$

Operations with Polynomials - Summary

Pretend you are instructing a classmate to do similar problems as above. Answer the questions below in full detail.

1.) When adding and/or subtracting polynomials, how do you know which terms to put together?

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2.) When multiplying polynomials, what are the important things to remember? Feel free to use an example to help your explanation.

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3.) Describe the general process when asked to evaluate a polynomial.

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Challenge:

N.) $(6w^2 + 4w - 3)(3w^3 - 2w + 5w^3)$

O.) $(2m - 3)^3$